

ABSTRACT

A multi-purpose electrode mechanism for detection and control of changes in brain state includes a shaft portion and extendible elements structured for insertion into target tissue of the brain of a subject patient, cooling means configured to operatively apply cooling therapy to the target tissue, stimulation means having at least one electrical contact structured to operatively apply electrical stimulation therapy to the target tissue, sensing means including at least one sensor monitoring a biological signal of the subject patient, control means responsive to the sensing means wherein the control means is structured to, in response to signals from the sensing means that indicate the presence of a pre-determined physiological condition or occurrence of an undesirable state change, automatically cause the cooling means and/or the stimulation means to initiate or terminate the cooling therapy and/or the electrical stimulation therapy respectively and an energy source for powering the various components of the multi-purpose electrode mechanism.